SEQUENCE LISTING

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SEP 2 1 2001 TECH CENTER 1600/2900

<110> Schenk, Dale B. Bard, Frederique Yednock, Ted

peptide)

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<120> Prevention and Treatment of Amyloidogenic Disease
<130> 15270J-004760US
<140> US 09/580,018
<141> 2000-05-26
<150> US 09/322,289
<151> 1999-05-28
<160> 77
<170> PatentIn Ver. 2.1
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from AN1792 sequence (human Abeta42, beta-amyloid

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<400> 3
Ile Ser Glu Val Lys Met Asp Ala Glu Phe
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<400> 6
Val Lys Met Asp Ala Glu Phe Arg His Asp
<210> 7
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<400> 7 *
Lys Met Asp Ala Glu Phe Arg His Asp Ser
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<210> 8
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Met Asp Ala Glu Phe Arg His Asp Ser Gly
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<210> 9
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Asp Ala Glu Phe Arg His Asp Ser Gly Tyr
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Ala Glu Phe Arg His Asp Ser Gly Tyr Glu
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<223> Description of Artificial Sequence:10-mer peptide
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4

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Glu Phe Arg His Asp Ser Gly Tyr Glu Val
                 5
<210> 12
<211> 10
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Phe Arg His Asp Ser Gly Tyr Glu Val His
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<210> 13
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      from AN1792 sequence (human Abeta42, beta-amyloid
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<400> 13
Arg His Asp Ser Gly Tyr Glu Val His His
<210> 14
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<400> 14
His Asp Ser Gly Tyr Glu Val His His Gln
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<210> 15
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<223> Description of Artificial Sequence:10-mer peptide
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<400> 15 .
Asp Ser Gly Tyr Glu Val His His Gln Lys
    5
<210> 16
<211> 10
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Ser Gly Tyr Glu Val His His Gln Lys Leu
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<210> 17
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Gly Tyr Glu Val His His Gln Lys Leu Val
<210> 18
<211> 10
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      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 18
Tyr Glu Val His His Gln Lys Leu Val Phe
                5
<210> 19
<211> 10
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<223> Description of Artificial Sequence:10-mer peptide
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      peptide)
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Glu Val His His Gln Lys Leu Val Phe Phe
      5
<210> 20
<211> 10
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Val His His Gln Lys Leu Val Phe Phe Ala
                  5
<210> 21
<211> 10
<212> PRT
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      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 21
His His Gln Lys Leu Val Phe Phe Ala Glu
<210> 22
<211> 10
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<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 22
His Gln Lys Leu Val Phe Phe Ala Glu Asp
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<210> 23
<211> 10
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<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
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<400> 23 .
Gln Lys Leu Val Phe Phe Ala Glu Asp Val
 1 5
<210> 24
<211> 10
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<223> Description of Artificial Sequence:10-mer peptide
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Lys Leu Val Phe Phe Ala Glu Asp Val Gly
                 5
<210> 25
<211> 10
<212> PRT
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      from AN1792 sequence (human Abeta42, beta-amyloid
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<400> 25
Leu Val Phe Phe Ala Glu Asp Val Gly Ser
<210> 26
<211> 10
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      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 26
Val Phe Phe Ala Glu Asp Val Gly Ser Asn
 1
                  5
<210> 27
<211> 10
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<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
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<400> 27 ·
Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
<210> 28
<211> 10
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Phe Ala Glu Asp Val Gly Ser Asn Lys Gly
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<210> 29
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<223> Description of Artificial Sequence:10-mer peptide
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<400> 29
Ala Glu Asp Val Gly Ser Asn Lys Gly Ala
<210> 30
<211> 10
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<400> 30
Glu Asp Val Gly Ser Asn Lys Gly Ala Ile
                  5
<210> 31
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<223> Description of Artificial Sequence:10-mer peptide
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<400> 31 ·
Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
      5
<210> 32
<211> 10
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<223> Description of Artificial Sequence:10-mer peptide
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<400> 32
Val Gly Ser Asn Lys Gly Ala Ile Ile Gly
<210> 33
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<400> 33
Gly Ser Asn Lys Gly Ala Ile Ile Gly Leu
<210> 34
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<212> PRT
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<400> 34
Ser Asn Lys Gly Ala Ile Ile Gly Leu Met
                  5
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<210> 35
<211> 10
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
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<400> 35 ·
Asn Lys Gly Ala Ile Ile Gly Leu Met Val
<210> 36
<211> 10
<212> PRT
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<220>
<223> Description of Artificial Sequence:10-mer peptide
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<400> 36
Lys Gly Ala Ile Ile Gly Leu Met Val Gly
                  5
<210> 37
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 37
Gly Ala Ile Ile Gly Leu Met Val Gly Gly
<210> 38
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 38
Ala Ile Ile Gly Leu Met Val Gly Gly Val
<210> 39
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
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<400> 39
Ile Ile Gly Leu Met Val Gly Gly Val Val
<210> 40
<211> 10
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
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Ile Gly Leu Met Val Gly Gly Val Val Ile
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<210> 41
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
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<400> 41
Gly Leu Met Val Gly Gly Val Val Ile Ala
<210> 42
<211> 42
<212> PRT
<213> Homo sapiens
<220>
<223> human Abeta42 beta-amyloid peptide
<400> 42
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys
Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
Gly Leu Met Val Gly Gly Val Val Ile Ala
                             40
<210> 43
<211> 13
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:influenza
      hemagglutinin HA-307-319 universal T-cell epitope
<400> 43
Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr
<210> 44
<211> 13
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<213> Artificial Sequence
<223> Description of Artificial Sequence: PADRE universal
      T-cell epitope
<220>
<221> misc_feature
<222> (3)
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<400> 44
Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
<210> 45
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:malaria CS, T3
      epitope universal T-cell epitope
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Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe Asn Val
                  5
<210> 46
<211> 10
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:hepatitis B
      surface antigen HBsAg-19-28 universal T-cell
      epitope
<400> 46
Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile
<210> 47
<211> 19
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence:heat shock
      protein 65 hsp65-153-171 universal T-cell epitope
Asp Gln Ser Ile Gly Asp Leu Ile Ala Glu Ala Met Asp Lys Val Gly
                                     10
Asn Glu Gly
<210> 48
<211> 14
<212> PRT
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<223> Description of Artificial Sequence:bacille
      Calmette-Guerin universal T-cell epitope
<400> 48
Gln Val His Phe Gln Pro Leu Pro Pro Ala Val Val Lys Leu
                 5
                                     10
<210> 49
<211> 15
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:tetanus toxoid
      TT-830-844 universal T-cell epitope
<400> 49
Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
                                     10
<210> 50
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:tetanus toxoid
      TT-947-967 universal T-cell epitope
<400> 50
Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
                                     10
Ala Ser His Leu Glu
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20

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<210> 51 ·
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: HIV gp120 T1
      universal T-cell epitope
Lys Gln Ile Ile Asn Met Trp Gln Glu Val Gly Lys Ala Met Tyr Ala
                                     10
<210> 52
<211> 22
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: AN 90549 Abeta
      1-7/tetanus toxoid 830-844
Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
Ile Gly Ile Thr Glu Leu
<210> 53
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:AN 90550 Abeta
      1-7/tetanus toxoid 947-967
<400> 53
Asp Ala Glu Phe Arg His Asp Phe Asn Asn Phe Thr Val Ser Phe Trp
Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
             20
<210> 54
<211> 43
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: AN90542 Abeta
      1-7/tetanus toxoid 830-844 + 947-967
<400> 54
Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
                5
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Ile Gly Ile Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu
                                  25
             20
Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
                              40
<210> 55
<211> 22
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<223> Description of Artificial Sequence: AN 90576 Abeta
      3-9/tetanus toxoid 830-844
<400> 55
Glu Phe Arg His Asp Ser Gly Gln Tyr Ile Lys Ala Asn Ser Lys Phe
Ile Gly Ile Thr Glu Leu
             20
<210> 56
<211> 20
<212> PRT
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<221> misc_feature
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<400> 56
Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Asp Ala Glu
Phe Arg His Asp
             20
<210> 57
<211> 34
<212> PRT
<213> Artificial Sequence
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<220>
<221> misc feature
<222> (24)
<223> Xaa = any amino acid
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<400> 57 ·
Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala
Glu Phe Arg His Asp Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala
                                  25
Ala Ala
<210> 58
<211> 34
<212> PRT
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<223> Description of Artificial Sequence: fusion protein
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<220>
<221> misc_feature
<222> (3)
<223> Xaa = any amino acid
Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asp Ala Glu
Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg
                                 25
His Asp
<210> 59
<211> 20
<212> PRT
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<223> Description of Artificial Sequence: fusion protein
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<220>

<221> misc_feature

<222> (10)

<223> Xaa = any amino acid

<400> 59

Asp Ala Glu Phe Arg His Asp Ala Lys Xaa Val Ala Ala Trp Thr Leu

Lys Ala Ala Ala

20

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<210> 60 ·
<211> 24
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: fusion protein
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Asp Ala Glu Phe Arg His Asp Ile Ser Gln Ala Val His Ala Ala His
                                      10
Ala Glu Ile Asn Glu Ala Gly Arg
             20
<210> 61
<211> 24
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<213> Artificial Sequence
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<223> Description of Artificial Sequence: fusion protein
      with Abeta epitope
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Phe Arg His Asp Ser Gly Tyr Ile Ser Gln Ala Val His Ala Ala His
Ala Glu Ile Asn Glu Ala Gly Arg
             20
<210> 62
<211> 24
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      with Abeta epitope
<400> 62
Glu Phe Arg His Asp Ser Gly Ile Ser Gln Ala Val His Ala Ala His
Ala Glu Ile Asn Glu Ala Gly Arg
             20
<210> 63
<211> 34
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: fusion protein
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<400> 63.
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Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr Asp Ala Glu 1 5 10 15

Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg 20 25 30

His Asp

<210> 64

<211> 27

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:fusion protein with Abeta epitope

<400> 64

Asp Ala Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu 1 5 10 15

Lys Leu Ala Thr Asp Ala Glu Phe Arg His Asp 20 25

<210> 65

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:fusion protein with Abeta epitope

<400> 65

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Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu 20 25 30

Ala Thr

<210> 66

<211> 27

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:fusion protein with Abeta epitope

<400> 66

Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Pro Lys
1 5 10 15

Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr 20 25

<210> 67

<211> 79

<212> PRT

<213> Artificial Sequence

<2205

<223> Description of Artificial Sequence:fusion protein with Abeta epitope

<400> 67

Asp Ala Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu

1 10 15

Lys Leu Ala Thr Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser 20 25 30

Val Phe Asn Val Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile 35 40 45

Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro 50 55 60

Lys Val Ser Ala Ser His Leu Glu Asp Ala Glu Phe Arg His Asp 65 70 75

<210> 68

<211> 57

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:fusion protein with Abeta epitope

<400> 68

Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala 1 5 10 15

Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly 20 25 30

Ile Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val 35 40 45

Pro Lys Val Ser Ala Ser His Leu Glu 50 55

<210> 69

<211> 44

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: fusion protein with Abeta epitope

Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe 10 Ile Gly Ile Thr Glu Leu Cys Phe Asn Asn Phe Thr Val Ser Phe Trp 25 Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu 40 <210> 70 <211> 51 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: fusion protein with Abeta epitope Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe 10 Ile Gly Ile Thr Glu Leu Cys Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu Asp Ala Glu Phe 40 Arg His Asp 50 <210> 71 <211> 26 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence:synuclein fusion protein <400> 71 Glu Gln Val Thr Asn Val Gly Gly Ala Ile Ser Gln Ala Val His Ala Ala His Ala Glu Ile Asn Glu Ala Gly Arg 20 <210> 72 <211> 13 <212> PRT <213> Artificial Sequence

<223> Description of Artificial Sequence: Abeta 1-12

peptide with inserted Cys residue

<220>

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<400> 72,
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val Cys
<210> 73
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Abeta 1-5
      peptide with inserted Cys residue
<400> 73
Asp Ala Glu Phe Arg Cys
  1
<210> 74
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Abeta 33-42
      peptide with inserted Cys residue
<220>
<221> MOD RES
<222> (2)
<223> Xaa = amino-heptanoic acid
<400> 74
Cys Xaa Gly Leu Met Val Gly Gly Val Val Ile Ala
                  5
<210> 75
<211> 19
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Abeta 13-28
      peptide with two Gly residues added and inserted
      Cys residue
<220>
<221> MOD RES
<222> (1)
<223> Xaa = N-acetyl His
<400> 75
Xaa His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
                                      10
Gly Gly Cys
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<210> 76.
<211> 4
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence:linker
<400> 76
Glu Gly Glu Gly
<210> 77
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: fusion protein with Abeta epitope
<400> 77
Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
                                     10
Ile Gly Ile Thr Glu Leu
             20
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